DERWENT-ACC-NO: 1996-186583
DERWENT-WEEK: 199619

TITLE: Method of drilling of small holes in superhard materials - employs monocrystal diamond tip sealed to coaxial metal holder by multicomponent suspension in vacuum and shaped by laser pulses

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PATENT-FAMILY:

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RU 2042478 C1	August 27, 1995	N/A	003	B23B 051/00

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
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INT-CL (IPC): B23B051/00
ABSTRACTED-PUB-NO: RU 2042478C

BASIC-ABSTRACT:

A diamond drill for machining of small holes in superhard minerals, ceramics and high strength alloys, employs a monocrystal diamond tip joined to a metallic holder by a multicomponent eutectic compound.

The monocrystal diamond tip (1) held in a jig is sealed to the metal holder (3) in an inert medium or vacuum at 1.3 x 10 power minus 2 Pascals by a multicomponent eutectic suspension with a carbide forming component and adhesive (2) over 3-4 minutes and is shaped by laser pulses of 1.06 micron wavelength at 3-10 kilo Hertz and polished.

ADVANTAGE - This increases mechanical strength of drill and permits increasing drilling depth and reducing diameter size to below 0.7 millimetres. Bul. 24/27.8.95

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS: METHOD DRILL HOLE SUPERHARD MATERIAL EMPLOY MONOCRYSTAL DIAMOND TIP SEAL COAXIAL METAL HOLD MULTICOMPONENT SUSPENSION VACUUM SHAPE LASER PULSE

DERWENT-CLASS: P54

SECONDARY-ACC-NO:
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